

AMENDMENTS TO THE CLAIMS

1. (canceled)

2. (previously amended) The web cleaner as recited in claim 3 wherein said substrate material is selected from a group consisting of paper, mylar and thermoplastic film.

3. (previously amended) A web cleaner for removing particles and other debris that have a propensity to cling to the surface of a substrate used in a lithographic press, comprising;

a) a plurality of path rollers defined as cylinders and a web of substrate material held taut between the path rollers, wherein said web is driven at high speeds by a printing press,

b) a pair of counter rotating rollers positioned between the path rollers with one roller unchangeably fixed on each side of the web in close proximity therewith, but not in contact with the web, each roller rotating in an opposite direction to that of the web's direction of travel, wherein said pair of counter rotating rollers each have a smooth outside surface which is capable of creating the air currents,

c) a pair of separating bars positioned at an angle between 90 degrees to 180 degrees to the web with one bar of the pair of separating bars in immediate adjacent relationship to each roller,

d) a plenum enclosing each roller and a separating bar for collecting debris detached from the web surface by air currents formed by rotation of the rollers, wherein the air currents create an air film on the web surface and a turbulent air movement within each plenum, and

e) means for receiving and storing debris connected to each plenum for accumulating debris removed from the web surface.

4. (canceled)

5. (canceled)

6. (canceled)

7. (previously amended) The web cleaner as recited in claim 3 further comprising a motor constructed to provide a differential speed to said pair of counter rotating rollers to that of the web from 9.75 feet per second (3 metres per second) to 35.75 feet per second (11 metres per second).

8. (previously amended) The web cleaner as recited in claim 3 wherein said pair of counter rotating rollers in close proximity is from .001 inch (.0254 mm) to .200 inch (5.08 mm) on each side of the web.

9. (previously amended) The web cleaner as recited in claim 3 wherein said separating bars are disposed on an upstream side of the web relative to the rollers.

10. (previously amended) The web cleaner as recited in claim 3 wherein said separating bars further comprise a blunt edge at an angle between 90 degrees to 180 degrees to the web.

11. (previously amended) The web cleaner as recited in claim 3 wherein said separating bar further comprises a pointed edge located at an angle between 90 degrees to 180 degrees to the web.

12. (previously amended) The web cleaner as recited in claim 3 wherein said separating bar further comprises a rounded edge located at an angle between 90 degrees to 180 degrees to the web.

13. (previously amended) The web cleaner as recited in claim 3 wherein each separating bar is at least the full length of its corresponding roller.

14. (previously amended) The web cleaner as recited in claim 3 wherein each plenum contains at least one opening adjacent to the separating bar, thus permitting air to flow into the plenum interior.

15. (previously amended) The web cleaner as recited in claim 3 wherein each plenum contains an outlet opening for connection to said means for receiving and storing debris.

16. (previously amended) The web cleaner as recited in claim 3 wherein said means for receiving and storing debris is a dust collector.

17. (original) The web cleaner as recited in claim 15 wherein a hose is placed between the plenum and the dust collector.

18. (previously amended) A web cleaner for removing particles and other debris that have a propensity to cling to the surface of a substrate used in a printing process comprising:

a) a plurality of path rollers having a web of substrate material driven by a printing press and held taut therebetween,

b) a pair of counter rotating rollers positioned in-between the path rollers, with one roller fixed on each side of the web in close proximity therewith, each roller rotating in an opposite direction to that of the web's direction of travel, wherein said pair of counter rotating rollers each have a smooth outside surface which is capable of creating the air currents,

c) a separating bar tangent to each roller in immediate adjacent relationship therewith, and

d) a plenum enclosing each roller and separating bar for collecting debris detached from the web surface by air currents that are formed by rotation of the rollers, which create an air film on the web surface and turbulent air within each plenum.

19. (previously amended) A web cleaner for removing particles and other debris that cling to the surface of a substrate used in a printing press, or the like, with a web of the substrate disposed between a plurality of path rollers and held taut therebetween comprising:

a) a pair of rollers positioned in-between the path rollers, with one roller immediately adjacent to each side of the web, each roller rotating in an opposite direction to that of the web's direction of travel, wherein said pair of counter rotating rollers each have a smooth outside surface which is capable of creating the air currents,

b) a separating bar tangent to each roller in immediate adjacent relationship therewith, and

c) a plenum enclosing each roller and separating bar for collecting debris detached from the web surface by air currents formed by rotation of the rollers which create an air film on the web surface and turbulent air flow within each plenum.